



ANNUAL REPORT 2001



Message from the Co-Chairs

We are pleased to present the 2001 Annual Report from the Gulf of Mexico Regional Panel to the national Aquatic Nuisance Species Task Force. The Gulf Regional Panel coordinates aquatic invasive species prevention, control, research, and outreach efforts in the Gulf of Mexico region, and is committed to assisting the five Gulf States - Alabama, Florida, Louisiana, Mississippi, and Texas - in managing their individual and shared aquatic invasive species issues. The Gulf Regional Panel's goal in aquatic invasive species management is to maintain ecosystem health and preserve biodiversity in the Gulf region, in a manner that provides a high quality of life for residents and sustains local and regional economies dependent on these healthy ecosystems.

Certainly aquatic invasive species management needs to focus on those species that currently threaten native ecosystems, established economic sectors, and public health. However, global commerce, transport, and natural migration provide an ever-expanding variety of introduction pathways to aquatic ecosystems in the Gulf of Mexico. While maintaining adequate attention to understanding and controlling existing harmful species, the Gulf Regional Panel is committed to increasing focus on the Gulf region's vulnerabilities to new invasions, including identifying high-risk introduction pathways and highly susceptible native habitats.

The Gulf Regional Panel strongly supports the development of state invasive species management plans, as set forth in the 1990 Nonindigenous Aquatic Nuisance Prevention and Control Act. Given the highly complex nature of the issue, the Gulf Regional Panel advocates the development of state plans through multi-stakeholder processes, supported by sound scientific and economic assessments. Realizing that the five Gulf States are in varying stages of invasive species management planning, the Gulf Regional Panel offers its assistance in whatever capacity needed. The Gulf Regional Panel's first contribution of assistance is the issue summary report, *An Initial Survey of Aquatic Invasive Species Issues in the Gulf of Mexico Region* (Version 4, September 2000), provided on an enclosed CD-ROM (back cover pocket).

Sincerely,

Lawrence E. Starfield
U.S. Environmental Protection Agency, Region 6
Co-Chair, Gulf of Mexico Regional Panel

Bruce Moulton
Texas Natural Resources Conservation Commission
Co-Chair, Gulf of Mexico Regional Panel

Table of Contents

	Message from the Co-Chairs
2	Focus of the Gulf Regional Panel
3	The Gulf of Mexico Program: Invasive Species Focus Area
	2001 Annual Performance Goals and Related Accomplishments
	2002 Annual Performance Goals
6	Update on the Exotic Shrimp Viruses Issue
7	Gulf State Aquatic Invasive Species Management Priorities
9	Gulf of Mexico Ballast Water Update
10	2001 Gulf of Mexico Region Accomplishments
	2001 Accomplishments: Alabama
	2001 Accomplishments: Florida
	2001 Accomplishments: Louisiana
	2001 Accomplishments: Mississippi
	2001 Accomplishments: Texas
	2001 Accomplishments: Gulfwide
17	Gulf of Mexico Regional Panel Contact Information
20	Invasive Species Focus Team Contact Information
22	Acknowledgements
	CD-ROM: <i>An Initial Survey of Aquatic Invasive Species Issues in the Gulf of Mexico Region</i> (Version 4, September 2000)

Focus of the Gulf Regional Panel

Human activities have and continue to introduce – both deliberately and accidentally – a large number of new species to the Gulf of Mexico region. Many introduced species are beneficial to society, providing much of the food we eat, sustaining significant sectors of our economy, offering recreational opportunities, and serving as pets in our homes and flora in our yards. However, there is a harmful subset of these species – invasive species – that, when established as free-living populations beyond human cultivation and control, can threaten the diversity of native species, the ecological stability of impacted ecosystems, economic activities dependent on these ecosystems, and human health.

The Gulf Regional Panel is specifically concerned with aquatic invasive species, those invasive species that are obligated to live in a waterbody for part or all of their lives. It is well recognized that established aquatic invasive species require intensive management, and that preventing new introductions is the most effective and lowest cost strategy for control. Therefore, the Gulf Regional Panel coordinates prevention, research, management, control, and outreach efforts across the five Gulf States, with the ultimate objective of coordinating these efforts with Mexico and Cuba.

The primary focus of the Gulf Regional Panel includes:

- Invasive aquatic species (1) established in free-living populations, (2) in a captive or managed state in the Gulf of Mexico region, or (3) not yet introduced to the Gulf of Mexico region, but with an active introduction pathway.
- Indigenous aquatic species aggressively expanding their natural ranges or density in an area due to human activities (e.g., habitat alteration), to the detriment of other native species or ecosystems.
- Uncontrolled and unmonitored introductions of nonindigenous aquatic species, where there is no appropriate assessment of risks.

Key Terminology

Aquatic Species

All plants, animals, and microbes that are obligated to live in a freshwater, estuarine (i.e., tidally-influenced), or marine waterbody (including freshwater or coastal wetland) during all or part of their lives.

Established

A species with one or more successfully reproducing or breeding (i.e., permanent) populations in an open ecosystem, which are unlikely to be eliminated by man or natural causes. Synonym: *naturalized*.

Gulf of Mexico Region

The Gulf of Mexico region includes the area within the political boundaries of the five Gulf States – Florida, Alabama, Mississippi, Louisiana, and Texas – and waters of the Gulf of Mexico to the seaward boundary of the U.S. Exclusive Economic Zone.

Nonindigenous Species

Any individual, group, or population of a species, or other viable biological material, that is intentionally or unintentionally moved by human activities, beyond its natural range or natural zone of potential dispersal, including moves from one continent or country into another and moves within a country or region; includes all domesticated and feral species, and all hybrids except for naturally occurring crosses between indigenous species. Synonyms: *alien*, *immigrant*, *introduced*, and *non-native*.

Introduction Pathway

The means by which a species enters an ecosystem. Synonym: *vector*.

Invasive Species

A species that threatens the diversity or abundance of native species; the ecological stability of infested ecosystems; economic activities (e.g., agricultural, aquacultural, commercial, or recreational) dependent on these ecosystems; and/or human health. Synonyms: *harmful*, *injurious*, *invader*, *noxious*, *nuisance*, *pest*, and *weed*.

The Gulf of Mexico Program: *Invasive Species Focus Area*

The Gulf of Mexico Program (GMP) is a network of citizens dedicated to managing and protecting resources of the Gulf of Mexico in ways consistent with the economic well-being of the region. The GMP works in partnership with the five Gulf States, numerous federal agencies, and agricultural, business, and environmental interests in the Gulf region.

One goal of the GMP is to sustain living resources in the Gulf of Mexico. Invasive species are recognized as a significant threat to the Gulf-region's living resources. To support Gulf-wide coordination and communication on invasive species issues, the GMP convened, beginning in 1997, a multi-stakeholder, technical-level Nonindigenous Species Focus Team (NSFT; renamed in May 2001 as the Invasive Species Focus Team or ISFT). The NSFT has provided the venue for considerable regional work, especially on ballast water and exotic shrimp virus issues.

Due to the regional focus of the GMP on invasive species issues, in 1998 the Aquatic Nuisance Species Task Force invited the (then) Nonindigenous Species Focus Team to serve as the Gulf of Mexico Regional Panel. Subsequently the GMP determined that the structure of the Management Committee is ideally suited to serve as the Gulf Regional Panel, by virtue of its broad organizational management representation. In January 2000, the GMP Policy Review Board approved a resolution to have the Management Committee serve as the Gulf Regional Panel.

The technical issue experts constituting the Invasive Species Focus Team (ISFT) continue to serve as "the heart" of the Gulf Regional Panel, providing sound technical and programmatic guidance to both the Gulf Regional Panel and the GMP Program Office. In order to facilitate greater, more focused technical input to the Gulf Regional Panel, the ISFT reorganized its issue-specific working groups in 2001. ISFT members are affiliated with one or more working groups according to their expertise and interest:

- Pathways/Prevention Working Group
- Control/Eradication Working Group
- Research Working Group
- Education/Outreach Working Group
- Ballast Water Working Group

In accordance with their Strategic Assessment Framework, the GMP has developed long-term objectives and Annual Performance Goals (APGs) for the Gulf Regional Panel/GMP Program Office to guide measurable progress in the invasive species focus area. The 10- and 5-year objectives are:

- By 2009, implement voluntary or incentive-based practices and technologies that can prevent new introductions of invasive species or reduce the impact or range of dispersal of known invasive species, as identified by the Gulf States.
- By 2004, each of the five Gulf States, with assistance from the GMP, will develop a prevention, management, education, and monitoring plan to reduce introductions of invasive species and minimize their impacts.

2001 Annual Performance Goals and Related Accomplishments

The GMP is pleased to report that the GMP Partnership – including the GMP Program Office, state and federal agencies, local governments, universities, non-governmental organizations, business, and industry – has made considerable progress on the 2001 Annual Performance Goals.



Courtesy of TBEP

2001 Annual Performance Goals	Related Accomplishments
APG-1 By February 2001, the Gulf Regional Panel will forward policy and programmatic recommendations regarding the prevention, management, and control of invasive aquatic species in the Gulf of Mexico to the Policy Review Board and the Aquatic Nuisance Species Task Force.	As part of the 2000 Annual Report, presented to the Aquatic Nuisance Species Task Force in April 2001, the Gulf Regional Panel forwarded nine recommendations. These recommendations covered national legislation to support state action, recognition of the Gulf Regional Panel, national guidance for state management plans, ballast water management, and coordination with the national Invasive Species Council.
APG-2 By April 2001, initiate three projects in priority coastal areas to prevent or reduce the impact of invasive species.	The GMP sponsored, or was a contributing sponsor of, three invasive species projects in 2001: <ul style="list-style-type: none"> ■ The Second International Conference on Marine Bioinvasions, held April 9-11 in New Orleans, Louisiana (\$10,000). ■ The 11th International Conference on Aquatic Invasive Species, to be held in February 2002 in Alexandria, Virginia (\$10,000). ■ The Coastal Bend Bays and Estuaries Program project Corpus Christi Risk Assessment: Preliminary Assessment of Potential for Introductions of Nonindigenous Aquatic Invasive Species (\$25,000).
APG-3 By September 2001, assist one Gulf State to develop an invasive species management plan.	The State of Louisiana has an opportunity to proactively begin the process of developing an invasive species management plan. In order to generate adequate broad-based issue awareness and support for an associated plan, the GMP is assisting the Louisiana Department of Wildlife and Fisheries, the Louisiana Sea Grant Program, and the Barataria-Terrebonne National Estuary Program in planning and conducting a briefing for executive-level legislative, agency, business, and citizen representatives. The briefing will develop a sound, risk-based, economically-driven case for creating a Louisiana Invasive Species Plan (LISP) Task Force. The desired outcome of the briefing will be the formation of a state task force and initiation of meetings to develop a state invasive species management plan.
APG-4 By January 2002, submit the Gulf of Mexico 2001 Annual Report to the Aquatic Nuisance Species Task Force.	The Gulf Regional Panel issued their 2001 Annual Report in February 2002. The report also includes, on an enclosed CD-ROM, the regional issue summary report, An Initial Survey of Aquatic Invasive Species Issues in the Gulf of Mexico Region (Version 4, September 2000).
APG-5 By October 2001, establish a pilot project with the Mississippi Master Naturalist program to provide education/outreach on invasive species.	Mississippi State University submitted a proposal in October 2001 to the GMP Office for support for the Mississippi Master Naturalist Program (MNP). The proposal will specifically expand and support the MNP website, which includes a significant exotic species component.
APG-6 By September 2001, evaluate and provide recommendations to the GMP Management Committee on partnering opportunities with international organizations working to eliminate pathways of transboundary exchange of invasive species.	The Gulf Regional Panel, supported by the Invasive Species Focus Team, is evaluating options for partnering opportunities. There are no recommendations at this time.

2002 Annual Performance Goals

The Annual Performance Goals for 2002 were crafted during the December 2001 ISFT meeting, and are intended to provide guidance for GMP partners to achieve progress in the Invasive Species Focus Area.

2002 Annual Performance Goals

APG-1 By the end of FY02, restructure the Gulf of Mexico Regional Panel to:

- Report directly to the ANS Task Force
- Provide dedicated staff
- Expand Gulf State representation
- Confirm work group membership and solidify objectives

APG-2 By the end of FY09, support the development and implementation of invasive species management plans in each Gulf State:

- During each year (FY02 to FY06) offer to support one Gulf State in the preparation of a plan. Pool the expertise of the Gulf Regional Panel to support the selected state. (LA plan in FY02)
- Support completion of a rapid assessment in the focal state during each year (FY02 to FY06)
- Continue financial support and technical assistance to Gulf States after plans have been developed

APG-3 By the end of FY03, develop a Gulf Regional Management Strategy for invasive species. The strategy will be organized to encompass and facilitate the five Gulf State plans as well as broad Gulf-wide issues and responsibilities involving federal partners. The Gulf Regional Management Strategy will also address:

- Operation and staffing of the Gulf Panel
- Coordination of mechanisms for state and federal agencies and partners
- Research needs and a research strategy
- Gulf-wide database (and website serving images)
- Workgroup goals, roles and membership
- Characterizations

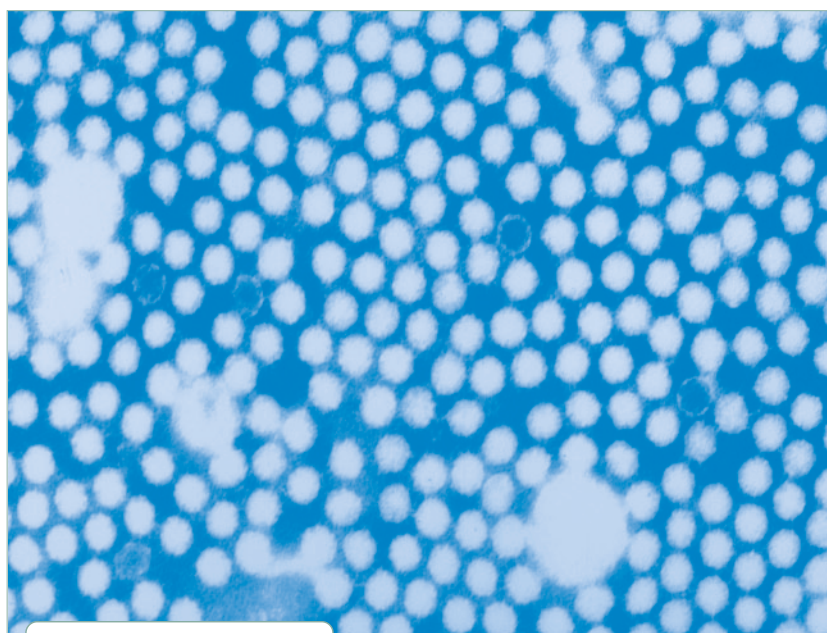
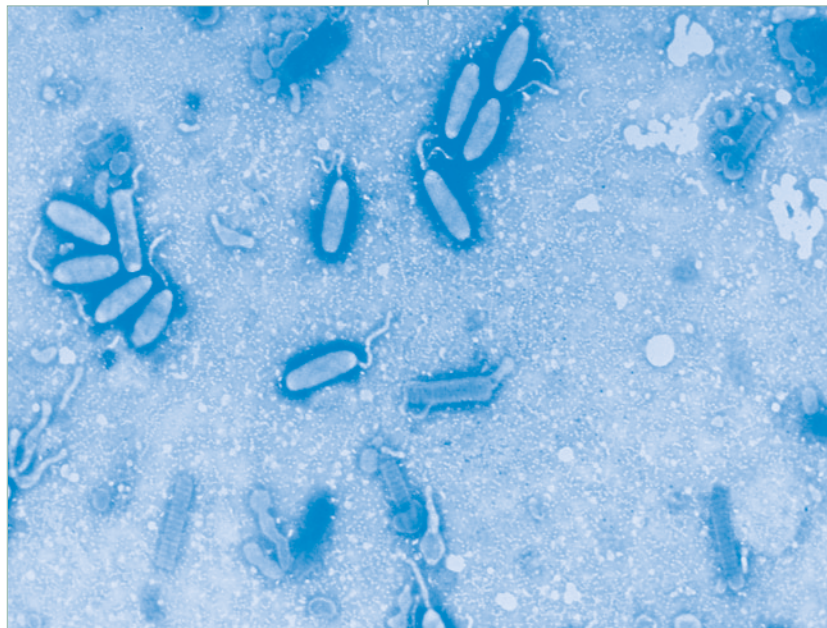


Courtesy of M. Graham, USM

Update on the Exotic Shrimp Viruses Issue

On November 28-29, 2001, a Shrimp Virus Disease Workshop was held in New Orleans, LA. The workshop was a continuation of the shrimp virus efforts of the Joint Subcommittee on Aquaculture (JSA) of the President's Council on Science and Policy, which convened two previous shrimp virus workshops, in 1996 and 1998. The workshop was jointly sponsored by the U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS); U.S. Department of Agriculture (USDA) Cooperative State Research, Education and Extension Service (CSREES) and Agricultural Research Service (ARS); and the GMP. Dr. Tom McIlwain (NMFS) chaired the workshop, and the thirty-four participants represented government agencies, research and academic institutions, and industry. The charge of the workshop was to update the status and trends of shrimp viruses, identify research and regulatory objectives, and make recommendations on how to achieve those objectives. Presentation topics included world shrimp farming and product distribution; the U.S. Marine Shrimp Farming Program; industry perspectives of shrimpers, processors, and consumers; shrimp disease and

pathogen diagnosis and screening; pathogen vectors and spread; pathogen exclusion and biosecurity; and updates on state and federal policies and regulations.



Courtesy of D. Lightner, UAZ

The participants reevaluated prioritized recommendations developed during the shrimp virus workshop conducted in 1996. Considering the information presented earlier in the workshop, the participants refined existing recommendations, made new recommendations, and rearranged priorities. The group strongly emphasized the need to better understand the threat of infected imported commodity and the presence and effects of pathogens in wild populations. Progress on many recommendations was recognized; the group suggested the continuation of work on these issues. New recommendations were made to develop educational materials for aquatic animal pathogen awareness and to

establish a rapid response information exchange mechanism to deal with episodic isolation events. The proceedings of this workshop will be summarized and published in the upcoming months. Workshop recommendations will be submitted to the JSA for consideration.

Gulf State Aquatic *Invasive* Species Management Priorities

Gulf State agency representatives on the ISFT were asked to identify those aquatic invasive species that constitute current and potential future management priorities. *Current management priority* is defined as an aquatic invasive species that the state is most concerned with managing at the present time. *Potential future management priority* is defined as an aquatic invasive species that (1) does not yet occur in open ecosystems in the state, but has an active introduction

pathway or (2) already has been introduced to the state, and is of concern due to the magnitude of adverse impacts experienced in similar ecosystems. The resulting species list, revised in December 2001 by state agency representatives on the ISFT, is intended to recognize representative species subject to current management foci in the five Gulf States (see Tables 1 and 2).

Table 1. Current and Potential Future Management Priorities as Identified by the Five Gulf States, December 2001: Invasive Aquatic and Semi-Aquatic Flora.

SCIENTIFIC NAME	COMMON NAME	AL	FL	LA	MS	TX
<i>Alternanthera philoxeroides</i>	alligatorweed		✓	✓		✓
<i>Aureoumbra lagunensis</i>	brown tide algae					✓ ^a
<i>Brachiaria mutica</i>	paragrass		✓			
<i>Casuarina equisetifolia</i>	Australian pine		✓			
<i>Caulerpa toxifolia</i>	tropical green algae		P			
<i>Colocasia esculenta</i>	wild taro		✓			
<i>Cylindrospermopsis raciborskii</i>	blue-green algae		P			
<i>Eichhornia crassipes</i>	waterhyacinth	✓	✓	✓	✓	✓
<i>Hydrilla verticillata</i>	hydrilla	✓	✓	✓	✓	✓
<i>Hygrophila polysperma</i>	Indian swampweed		✓			
<i>Hymenachne amplexicaulis</i>	West Indian marshgrass		✓			
<i>Imperata cylindrica</i>	cogongrass	✓	✓	P		
<i>Ipomoea aquatica</i>	waterspinach		✓			P
<i>Lythrum salicaria</i>	purple loosestrife			P		P
<i>Melaleuca quinquenervia</i>	paperbark (melaleuca)		✓			
<i>Mimosa pigra</i>	catclaw mimosa		✓			
<i>Panicum repens</i>	torpedograss		✓	✓		
<i>Pistia stratiotes</i>	waterlettuce		✓	✓		✓
<i>Pueraria montana</i>	kudzu			✓		P
<i>Salvinia minima</i>	common salvinia			✓		✓
<i>Salvinia molesta</i>	giant salvinia	✓	✓	✓	✓	✓
<i>Sapium sebiferum</i>	Chinese tallow tree	✓	✓	✓	✓	✓
<i>Schinus terebinthifolius</i>	peppertree		✓			
<i>Solanum tampicense</i>	wetland nightshade		✓			

Source: This information was provided by representatives of Gulf State agencies and organizations on the Gulf of Mexico Program Invasive Species Focus Team. Designations are not based on occurrence in the state, but rather priorities for management. Some of the unchecked species exist in the state, but are not currently considered priorities for management.

✓ = Current management priority in the state.

P = Potential future management priority for the state.

^a = Cryptogenic (a species whose status as indigenous or nonindigenous remains unresolved)

Table 2. Current and Potential Future Management Priorities as Identified by the Five Gulf States, December 2001: Invasive Aquatic Fauna.

SCIENTIFIC NAME	COMMON NAME	AL	FL	LA	MS	TX
<i>Anguillicola crassus</i>	exotic nematode on American eels					P
<i>Belonesox belizanus</i>	pike killifish		✓			
<i>Callinectes bocourti</i>	chocolate brown crab	P				
<i>Carcinus maenus</i>	green crab	P		P		P
<i>Charybdis helleri</i>	marine swimming crab		✓	P		P
<i>Cichlasoma cyanoguttatum</i>	Rio Grande cichlid			✓		✓
<i>Cichlasoma urophthalmus</i>	Mayan cichlid		✓			
<i>Cittarium pica</i>	West Indian trochid		✓			
<i>Clarias batrachus</i>	walking catfish		✓			
<i>Corbicula fluminea</i>	Asian clam	P	✓	P		P
<i>Crassostrea gigas</i>	Japanese (or Pacific giant) oyster		P			✓
<i>Ctenopharyngodon idella</i>	grass carp	P	P ^a	✓		✓
<i>Dreissena polymorpha</i>	zebra mussel	✓	P	P	✓	P
<i>Drymonema dalmatinum</i>	jellyfish	P				
<i>Eriocheir sinensis</i>	Chinese mitten crab	P		P		P
<i>Glossodoris sedna</i>	marine nudibranch		✓			
<i>Hypophthalmichthys molitrix</i>	silver carp	P		✓		P
<i>Hypophthalmichthys nobilis</i>	bighead carp	✓		✓		P
<i>Limnoperna fortunei</i>	freshwater mussel		P			
<i>Litopenaeus vannamei</i>	Pacific white (or whiteleg) shrimp		P			
<i>Monopterus albus</i>	swamp eel		✓		P	
<i>Mylopharyngodon piceus</i>	black carp			P	P	P
<i>Myocastor coypus</i>	nutria			✓	✓	✓
<i>Mytilopsis leucophaea</i>	Conrad's (or dark) false mussel		✓			
<i>Mytilopsis sallei</i>	Salle's (or Santa Domingo) false mussel		✓ ^b			
<i>Neogobius melanostomus</i>	round goby			P	P	
<i>Oreochromis aureus</i>	blue tilapia		P			✓
<i>Oreochromis mossambicus</i>	Mozambique tilapia		✓			✓
<i>Oreochromis niloticus</i>	Nile tilapia				✓	
<i>Perna perna</i>	brown (or Mexihalo) mussel			P		P
<i>Perna viridis</i>	green mussel		✓			
<i>Phyllorhiza punctata</i>	spotted jellyfish	✓		P	✓	P
<i>Pinctada margaritifera</i>	black-lipped (or Pacific) pearl oyster		P			
<i>Platychiropspectabilis</i>	saber crab		✓			
<i>Pomacea canalicula</i>	channeled applesnail					✓
<i>Rapana venosa</i>	veined rapa whelk		P			
<i>Sarotherodon melanotheron</i>	blackchin tilapia		✓			
Taura Syndrome Virus	shrimp virus					✓
<i>Tilapia mariae</i>	spotted tilapia		✓			
<i>Tridacna crocea</i> / <i>T. maxima</i>	giant clams		P			
White Spot Syndrome Virus	shrimp virus					✓

Source: This information was provided by representatives of Gulf State agencies and organizations on the Gulf of Mexico Program Invasive Species Focus Team. Designations are not based on occurrence in the state, but rather priorities for management. Some of the unchecked species exist in the state, but are not currently considered priorities for management.

✓ = Current management priority in the state.

P = Potential future management priority for the state.

^a = Diploid stocks only.

^b = Cryptogenic (a species whose status as indigenous or nonindigenous remains unresolved)

Gulf of Mexico Ballast Water Update

The ISFT, in partnership with many key Gulf-region stakeholders, conducted three regional ballast water management workshops from 1999 to 2000. In 2001, the Gulf region's ports and shipping interests continued to seek ballast water management solutions, working through their professional associations to develop common positions on their responsibilities for preventing and controlling invasive species introductions. In general, the industry supports national and international standards for ballast water treatment as a first step to developing ballast water management methods that can augment or substitute for U.S. Coast Guard (USCG) open-ocean ballast water exchange guidelines.

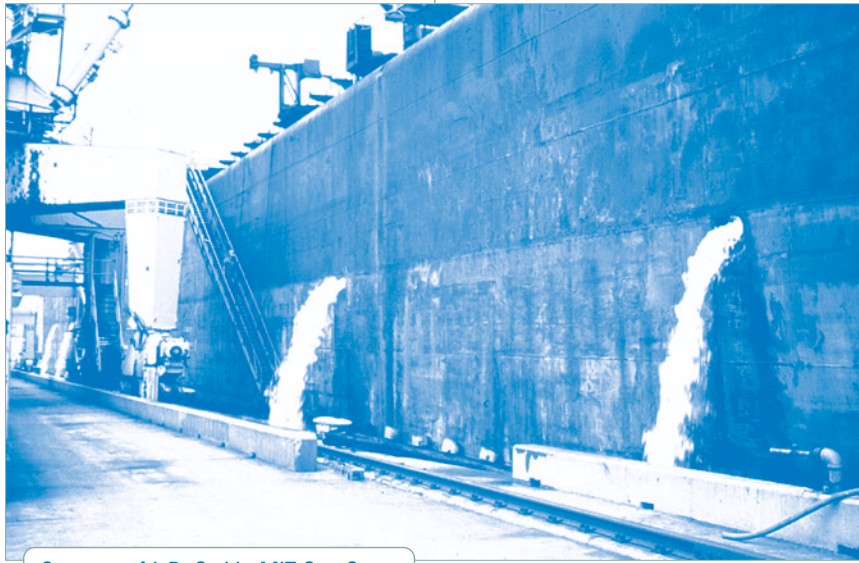
Although many vessels currently entering Gulf of Mexico ports conduct open-ocean ballast water exchange, certain physical and operational circumstances in the Gulf of Mexico – for example, coastwise navigation, tanker exemption from ballast water exchange, and safety of vessels during exchange – reduce the possibility of universal exchange. These circumstances require alternative ballast water management methods to protect the biodiversity of the Gulf of Mexico region. A sound standard could provide a universally accepted mechanism to judge effectiveness. Research and technology development for ballast water treatment has been slowed worldwide by the lack of such standards. However, the USCG Ballast Water and Shipping Committee presented a report on standards development at the October 2001 meeting of the Aquatic Nuisance Species Task Force meeting in October 2001. ISFT member Marilyn Barrett-O'Leary (Louisiana Sea Grant Program) is the Gulf of Mexico representative on this committee. In addition, Tom Kornegay, Port of Houston, is serving as a representative of the American Association of Port Authorities in the International Maritime Organization deliberations to develop an international standard.

The Shipping Industry Ballast Water Coalition, many members of which conduct commerce in the Gulf of Mexico, has been actively addressing the ballast water issue in 2001 (Coalition members include the American Association of Port Authorities; the American Maritime Congress; the American Petroleum Institute; APL (American Presidents Line) Limited; Central Gulf Lines; Chamber of Shipping of America; Chemical Carriers' Association; CSX Lines LLC; Gulf Coast Transit Company; Maritime Institute for Research and Industrial Development; Matson Navigation Company Inc.; Waterman Steamship Corporation; and the World Shipping Council). This diverse group of shipping and port interests has the ballast water vector as a common challenge. Although the goals and operations of Coalition members are not always the same, they have been able to come to consensus on issues related to reducing invasive

species introductions through ballast water.

Because ballast water management requirements can differ by location, improved understanding of the local risks is critical. Some Gulf-region ports, through their port authorities or through local National Estuary Programs, have begun to identify

local vulnerabilities (e.g., nonindigenous invasive species that could be a problem in their area; areas of the port that might be especially subject to introductions via ballast water; indigenous organisms that could be problematic when ballast water taken on board is released elsewhere). For example, the Tampa Bay Estuary Program, the Port of Tampa, the Coastal Bend Bays and Estuaries Program, the Port of Corpus Christi, the Galveston Bay Estuary Program, and the Port of Houston-Galveston are working to better define potential risks from ballast water in their respective areas.



Courtesy of L.D. Smith, MIT Sea Grant

2001 Gulf of Mexico Region Accomplishments

The following sections highlight selected 2001 invasive species prevention, research, management, control, and outreach efforts conducted in the five Gulf States and across the Gulf-region. Please note that most of the activities described below were conducted by Gulf-region agencies and organizations without direct support from the Gulf Regional Panel or the GMP Program Office. Due to the interest of the Gulf Regional Panel in invasive species management planning, the status of management planning efforts in each of the five Gulf States is described in a separate subsection.

2001 Accomplishments: Alabama

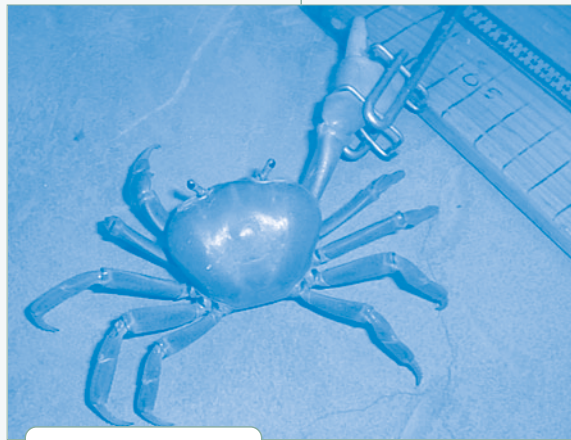
State Invasive Species Management Planning

To date, the State of Alabama has not focused on invasive species management planning. The Alabama Department of Conservation and Natural Resources has in place a regulation prohibiting the placement or introduction of many species that are non-native to the state. However, in most instances, this regulation serves to control the spread of these species rather than to prevent their original introduction.

Other Highlights

Alabama Department of Conservation and Natural Resources

Agency staff recently discovered the presence of a new nonindigenous species in the Mobile Bay area. At least one specimen of the great land crab (*Cardisoma guanhumii*) was found south of Fowl River on the western side of Mobile Bay. The great land crab is native to the Caribbean, and has become an agricultural pest in South Florida.



Courtesy of AL DCNR

2001 Accomplishments: Florida

State Invasive Species Management Planning

In an August 2000 letter, Florida Governor Jeb Bush requested that the Florida Department of Environmental Protection (FDEP) facilitate a meeting of Florida's state agencies to discuss development of a state invasive species management plan. FDEP organized and conducted meetings in July and August of 2001 to increase interagency coordination on the following: raising the profile of the invasive species issue; more efficiently allocating existing resources; achieving more on-the-ground action; and making Florida the site for any national center on invasive species. Representatives from the following agencies attended at least one of these meetings: FDEP, Florida Department of Agriculture and Consumer Services (FDACS), Florida Fish and Wildlife Conservation Commission (FWC), Florida

Department of Transportation (FDOT), South Florida Water Management District (SFWMD), St. John's River Water Management District (SJRWMD), Southwest Florida Water Management District (SWFWMD), Suwannee River Water Management District (SRWMD), Northwest Florida Water Management District (NFWMD),

United States Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS), United States Forest Service (USFS), USCG, United States Fish and Wildlife Service (USFWS), United States Army Corps of Engineers (USACE), National Parks Service (NPS), and the National Invasive Species Council. Prior to the August meeting the FDEP Bureau of Invasive Plant Management conducted an

extensive survey of state agency representatives about approaches and needs for Florida invasive species management planning.

The Invasive Species Working Group (ISWG), comprised of nine state agencies and organizations that have jurisdictional responsibilities for prevention, detection, control, and monitoring of invasive nonindigenous species in Florida, was formed after the August meeting. The member agencies/organizations include: FDEP, FWC, FDACS, SFWMD, SJRWMD, WRWMD, NFWFMD, FDOT, and the University of Florida. ISWG members agreed that a Florida invasive species management plan needs to be simple, identify inconsistencies in the approaches among and within responsible agencies, identify gaps and identify common needs that could be coordinated, and establish communication pathways. Examples of areas for cooperation include public education and rapid response techniques. A major gap that was identified was the inability to control invasive species on private lands that threaten public lands.

Presently, the fourth draft of the Florida Statewide Invasive Species Management Plan is in preparation. The draft plan calls for action items to increase coordination and intergovernmental cooperation, increase efforts for preventing new biological invasions, increase efforts for rapidly responding to new invasions, identify and prioritize management efforts among state agencies, and increase public education about invasions in Florida. The ISWG intends to finalize the management plan in the spring of 2002, which will be followed by an implementation phase.

Other Highlights

FDEP Bureau of Invasive Plant Management

FDEP oversees the largest invasive plant management program of its kind in the United States.

For FY2002 Governor Jeb Bush proposed, and the Florida Legislature appropriated, nearly \$35 million for invasive plant management, a 50 percent increase from the previous fiscal year and the largest budget ever for the Bureau of Invasive Plant Management. Eleven plant species regularly controlled by the Bureau are aquatic.

Eyes On The Bay Project: Tampa Bay Estuary Program

The Tampa Bay Estuary Program received grants from USEPA to institute a comprehensive cam-

paign to educate watershed residents about the harmful impacts of invasive species. The Eyes on the Bay project focuses on (1) *research* to assess the extent of existing invasions in Tampa Bay, and (2) *education* to enlist public assistance in preventing future introductions and monitoring existing invasions. In Fall 2001, the University of Florida

and U.S. Geological Survey (USGS) began quantifying the number and types of invasive species found in Tampa Bay, through both literature review and a field assessment. The research is attempting to understand the types of invasive species occurring in the bay, the relative ecological risks they pose, and habitats most vulnerable to invasion. The education component of the Eyes on the Bay project uses public service messages, posters, signs, and a website to provide information about invasive species likely to appear and flourish in Tampa Bay. Low-frequency radio (AM) transmitters are being stationed on one or more of the bridges spanning Tampa Bay to broadcast educational messages. Waterfront residents are being recruited to monitor their docks, seawalls, and boat hulls for the presence of targeted harmful species.



Courtesy of TBEP

Chinese Tallow Eradication at the Pensacola Naval Air Station

In a cooperative project between the U.S. Navy and the NPS, Chinese tallow trees (*Sapium sebiferum*) are being eradicated from approximately 860 acres of land at the Pensacola Naval Air Station, adjacent to the Gulf Islands National Seashore. Saplings and trees are being treated with herbicide, based on protocols developed by the State of Florida. Implementation of a long-term monitoring and management program will help prevent reinfestation by this invasive species. Global Positioning Systems (GPS) will be used to record the location of Chinese tallow trees, treatment areas, and any future reinfestations. Native vegetation will be preserved and major restoration will be precluded by the treatment methods used.

Control of Invasive Aquatic Plant Species by Florida's Water Management Districts

Florida's five Water Management Districts (WMDs) manage invasive plants on nearly 2.5 million acres of conservation lands, and in some 240,000 surface acres of public lakes and rivers, WMD waters, and flood control canals. Funding for these operations comes from trust funds administered by the FDEP, *ad valorem* tax revenues, mitigation and special revenue funds, and county funding. In FY00, the five WMDs spent approximately \$7.5 million managing pest plants in sovereign waters, \$5.0 million in flood control canals, \$625,000 in WMD-owned waters, and \$5.7 million on conservation lands. The WMDs also funded and conducted invasive plant species projects such as research on biological control agents and screening trials with herbicides, surveying and mapping inventories for invasive pest-plants on managed properties, production of educational materials, and participation in public outreach events.

Video News Release Highlighting Brazilian Pepper Control Effort

In August 2001, the GMP released a video focusing on the significant efforts being made to control the spread of the highly invasive Brazilian pepper plant on Sanibel Island in South Florida. The plant, which threatens hundreds of acres of freshwater marshes on the island, dominates the

canopy layer, shades native plant species, and produces a chemical that retards the growth of native plants and trees. Eliminating the peppers requires the clearing of all but native plants and trees. The video highlights the high degree of success achieved in controlling the spread of this species on Sanibel Island through the efforts of the Sanibel-Captiva Invasive Species Project. The video shows areas cleared several years ago test sites that now look much as they did before the peppers were introduced on the island in the mid-1950s. This project is being implemented under the sponsorship of the Sanibel-Captiva Conservation Foundation, in conjunction with

USFWS Ding Darling National Wildlife Refuge and other private and governmental partners.



Courtesy of TBEP

2001 Accomplishments: Louisiana

State Invasive Species Management Planning

Early in 2001, the Governor of Louisiana asked the Louisiana Department of Wildlife and Fisheries (LDWF) to take the lead in developing a state invasive species management plan. To establish a baseline for management planning, the Louisiana Sea Grant Program developed a database of all existing nonindigenous species in Louisiana. Some preliminary research was conducted to identify governmental and private entities that might be affected by invasive species or might otherwise be stakeholders in the management process, or that have expertise for identifying, monitoring, or controlling invading species. LDWF is currently forming a formal state task force to focus on invasive species in Louisiana. The purpose of this task force would be to generate a comprehensive, broadly supported invasive species management plan and secure legislative approval for implementation.

Other Highlights

Control of *Salvinia molesta* and *Salvinia minima*

During 2001, the swift formation and action of a citizen task force confined infestations by giant salvinia (*Salvinia molesta*) to a few Louisiana lakes and reservoirs. Working in cooperation with the Sabine River Authority, the LDWF identified several developing infestations in the Toledo Bend Reservoir, a large freshwater lake and recreational boating and angling haven on the Texas-Louisiana border. Facilitated by the Giant Salvinia Task Force and a special legislative appropriation, LDWF field agents used herbicide applications that controlled and prevented the spread of the infestations.

While surveying lakes for giant salvinia infestations, LDWF field agents identified significant infestations by common salvinia (*Salvinia minima*), a nonindigenous aquatic plant that had been a

benign part of many ecosystems in Louisiana for over ten years. Biologists have suggested that the unusual droughts of the years 1999 and 2000 had in some way facilitated growth, changing common salvinia into an invading plant. The Giant Salvinia Task Force sought and received an appropriation to extend herbicide applications to include this plant species. Common salvinia is now contained in the state, although it has not been eradicated; continued herbicidal treatment will be necessary to control it.

To secure public assistance with identification and control of giant salvinia, the Task Force conducted a statewide media day. Resulting news articles and television coverage informed residents about the dangers of invasive aquatic plants, especially giant salvinia. People learned about the value of biodiversity and the importance of native fresh waterbodies to the state's economy and culture, while learning simple routines to protect local waters from invasions. An educational poster, including photographs of common aquatic invasive plants, was developed and installed at boat ramps throughout the state.



Courtesy of BTNEP

2001 Accomplishments: Mississippi

State Invasive Species Management Planning

In July 1998, Mississippi State Statute 49-7-80 was enacted prohibiting the release of any aquatic species into the public waters of the state without a permit from the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP). The statute authorizes MDWFP to establish and maintain a list of approved, restricted, and prohibited species, and to establish rules governing importation, possession, sale, and escape of those species. To date, this list has not yet been established. The Mississippi Department of Agriculture and Commerce (MDAC) publishes the Guidelines for Aquaculture Activities in Mississippi, which prohibits the culture of certain aquatic species.

Other Highlights

Phyllorhiza punctata Surveys

Monitoring of invasive jellyfish species in Mississippi waters began in May 2001 and continued through the summer and early fall. Following the massive numbers of adult medusae of the Australian jellyfish (*Phyllorhiza punctata*) that infested the southern half of Mississippi Sound during July and August 2000, biologists from the Gulf Coast Research Laboratory (GCRL), University of Southern Mississippi (USM), and the Mississippi Department of Marine Resources (MDMR) were aware of the possibility of a population becoming established in local waters. No *P. punctata* were collected in routine resource survey activities in Mississippi Sound. All reports of sightings came

from commercial and recreational fishermen who were asked to report occurrence and bring in specimens for verification of identification. Presence of small Australian jellies in Breton Sound suggests at least some larvae found suitable substrate and the polyps were able to survive the winter in the northern Gulf and produce medusae.

Mississippi Exotic Pest Plant Council

The Mississippi Exotic Pest Plant Council (MEPPC) was organized in December 2000. Under the leadership of Martin Street of The Nature Conservancy (TNC), the MEPPC is comprised of over thirty member organizations: Mississippi Department of Transportation (MDOT), MDMR, Mississippi Department of Environmental Quality (MDEQ), NPS, USDA, Camp Shelby National Guard Training Center, Meridian Naval Air Station, USFS, USEPA, USFWS, USACE, Natural Resources Conservation Service (NRCS), Mississippi State University (MSU), USM, University of Mississippi (UM), the Crosby Arboretum, the Mississippi Natural Heritage Program, and TNC.

The MEPPC is exploring creative ways to address exotic invasive plant issues throughout the state. The Council's principal accomplishments in 2001

included establishing the structure of this new organization, increasing Council membership, and ensuring that all members are informed about all exotic weed issues in the state. A December 2001 meeting of the council was convened to finalize plans for a website that will provide extensive public information on the scope and control of exotic invasive species in

Mississippi. The MEPPC is developing a partnership with the Crosby Arboretum to hold an exotic invasive species symposium in spring of 2002.



Courtesy of M. Graham, USM

2001 Accomplishments: Texas

State Invasive Species Management Planning

The Texas State Aquatic Plant Plan went into effect February 6, 2001. Implementing authority for the Plan, including a state statute and an associated Texas Parks and Wildlife (TPWD) regulation, is described in the TPWD Inland Fisheries Division document *Aquatic Vegetation Management in Texas: A Guidance Document* (on the Internet at <http://www.tpwd.state.tx.us/fish/infish/vegetation/guiddoc.pdf>). The State Plan applies to any aquatic vegetation control efforts including herbicidal, mechanical, biological, as well as water level manipulations. Under this Plan, all persons or entities interested in conducting aquatic vegetation control operations in Texas' public waters must submit a treatment proposal to TPWD and to local governing entities, as well as notify drinking water providers that may be affected and any other interested parties. No state funds may be used on herbicide treatments unless a Certified Pesticide Applicator is used for the job.

Local governing entities may wish to develop more restrictive local plans. In such cases, approval by the Texas Parks and Wildlife Department (TPWD), the Texas Department of Agriculture (TDA), and the Texas Natural Resources Conservation Commission (TNRCC) would be required prior to implementation.

Other Highlights

Port of Corpus Christi Assessment of Ballast Water Introductions

The Port of Corpus Christi produced the technical report, *Data Report and Assessment Concerning Poten-*

tial Ballast Introductions into the Port of Corpus Christi, Texas, in 2001. The report presents a data compilation, screening, and determination of potential sources and volumes of ballast water, and compares future conditions (i.e., risks) from the Existing Project Future Conditions and Proposed Corpus Christi Ship Channel Improvement Project Future Conditions. The draft report serves, in part, as documentation for an environmental assessment for the Corpus Christi Ship Channel - Channel Improvement Project.

Use of Australian *Salvinia* Weevil to Control Giant *Salvinia*

In October 2001, USDA and TPWD released a total of 1,100 Australian salvinia weevils (*Cyrtobagous salviniae*) into four separate wild giant salvinia (*Salvinia molesta*) populations in Texas, the Louisiana side of Toledo Bend, two private lakes in Liberty and Chambers Counties, and Lake Texana. Extensive monitoring will evaluate weevil survival and determine the effects of the released insects on the salvinia.



Courtesy of USGS/BRD

Invasive Plant Control in the Rio Grande River

Early in 2001, sedimentation closed the Rio Grande river mouth, halting river discharge to the Gulf of Mexico. Dredging opened the river mouth for several months, but late in 2001, it closed again. Invasions of hydrilla (*Hydrilla verticillata*) and waterhyacinth (*Eichhornia crassipes*) are considered a significant factor in this problem; many argue that hydrilla impedes the downstream flow of water, while waterhyacinth increases evaporative loss. Approximately \$50,000 was spent on mechanical control of waterhyacinth in the Rio Grande in the summer of 2001. A radio/ultrasonic fish tracking study is currently underway to examine the feasibility of using triploid grass carp to control hydrilla in the river.

2001 Accomplishments: Gulfwide

Marine Bioinvasions Conference

The Second International Conference on Marine Bioinvasions was held in New Orleans, Louisiana, on April 9-12, 2001. While international in scope, the conference facilitated focus on Gulf of Mexico region invasive species issues.

National Giant Salvinia Conference

The USFWS hosted the National Giant Salvinia Conference in Houston, Texas, on March 13-15, 2001, with approximately 100 attendees. The primary goal of the conference was to provide stakeholders with a common understanding of the giant salvinia (*Salvinia molesta*) problem, learn from historical responses, address issues associated with jurisdictional boundaries, enhance communication, coordinate control efforts, and identify leadership roles and commitments. A pre-conference session focusing on basic background information was held for the media and conference participants new to the giant salvinia control effort. A special workshop on funding control efforts was also conducted. The conference closed with the development of a prioritized outline of issues and actions to be incorporated into the existing national strategy aimed at controlling the spread of giant salvinia.

Risk Management Guidance for Aquatic Species

In November 2001, the Aquatic Nuisance Species Task Force's Risk Assessment & Management Committee made available to the public draft guidance on the best methods for assessing possible threats by new aquatic species, and how to control their spread. Committee representatives include the USFWS, USEPA, NOAA, USACE, USDA, and USGS.

Invasive Nonindigenous Carp Identification Guide

The USFWS Region 4-Fisheries and Invasive Species Program are collaborating with the USGS Biological Resources Division (BRD) on an

invasive nonindigenous cyprinid (carp) identification guide. The project will produce an identification guide, with keys and illustrations, for selected invasive nonindigenous cyprinids of the U.S., that will allow field biologists to (1) distinguish these fishes from native cyprinids and other nonindigenous fishes, and (2) identify these fishes at an early life stage when they would be most subject to control measures. There are currently twenty species (plus four hybrid combinations) of nonindigenous cyprinids known to have been introduced into the open waters of the U.S. and about fifty percent are known to be established in one or more states. Of these twenty species, ten have been determined to be critical based on their size, distribution, and history or potential to disrupt aquatic ecosystems. These ten species include goldfish (*Carassius auratus*), crucian carp (*Carassius carassius*), grass carp (*Ctenopharyngodon idella*), common carp (*Cyprinus carpio*), silver carp (*Hypophthalmichthys molitrix*), bighead carp (*Hypophthalmichthys nobilis*), ide (*Leuciscus idus*), black carp (*Mylopharyngodon piceus*), rudd (*Scardinius erythrophthalmus*), and tench (*Tinca tinca*).

Ecology, Management, Control, and Mapping of Chinese Tallow in Coastal Prairie

The exotic Chinese tallow tree (*Sapium sebiferum*) is particularly noxious in the extremely rare coastal prairie communities of Texas and Louisiana. The USGS National Wetland Research Center (NWRC) researchers worked in association with USFWS refuge managers on experimental prescribed burns to investigate the effects of burning on the survival and growth of this invasive species and the consequences of the burn regime on the dominance mixture of native prairie species. The work has documented that effects of fire on tallow are size and age dependent. Another component of this work has been conducted in conjunction with researchers at Rice University and supported by USEPA to look at the potential for fire to affect the initial colonization of prairie by Chinese tallow. NWRC also initiated a collaborative study with National Aeronautics and Space Administration (NASA) for mapping Chinese tallow with EO-1 Hyperspectral and Landsat 7 Enhanced Thematic Mapper data.

Federal Representatives

Environmental Protection Agency (EPA)

Larry Starfield (Federal Co-Chair)

Deputy Regional Administrator
U.S. EPA Region 6
1445 Ross Avenue Suite 1200 (6DRA)
Dallas, Texas 75202-2733
214-665-2100 Fax: 214-665-6648
Email: starfield.larry@epa.gov
Secretary: sanchez.connie@epa.gov
Appointed: 8/24/01

James D. Giattina

Director, Gulf of Mexico Program Office
Building 1103, Room 202
Stennis Space Center, Mississippi 39529-6000
228-688-1172 Fax: 228-688-2709
Email: giattina.jim@epa.gov
Admin Asst.: bowman.carol@epa.gov
Appointed: 9/27/97

Department of Commerce (DOC)/ National Oceanic & Atmospheric Administration (NOAA)

Herb Kumpf

NOAA/National Marine Fisheries Service (NMFS)
Panama City Laboratory
3500 Delwood Beach Road
Panama City, Florida 32408
(850) 234-6541 Fax: (850) 235-3559
Email: herb.kumpf@noaa.gov
Appointed: 3/31/01

Edward Kruse (Alternate)

Manager
South Atlantic Region
NOS, N/ORM/NOAA
Office of Ocean and Coastal Resource Management
1305 East-West Highway, Room 11201
Silver Spring, Maryland 20910-3282
301-713-3117 ext. 181 Fax: 301-713-4367
Email: ed.kruse@noaa.gov
Appointed: 8/15/97

Department of Defense (DOD)/ U.S. Air Force (USAF)

Vic Verma

Environmental Program Manager
Air Force Environmental Office
Atlanta Federal Center, Suite 8M80
61 Forsyth Street
Atlanta, Georgia 30303-3416
404-562-4208 Fax: 404-562-4221
Email: vic.verma@atlaafcee.brooks.af.mil
Appointed: 7/22/98

Department of Defense (DOD)/U.S. Army Corps Of Engineers (USACE)

John P. Saia

Chief, Planning, Programs and Project
Management Division
CELMN-PM
New Orleans District, Corps of Engineers
New Orleans, Louisiana 70160
504-862-2204 Fax: 504-862-1259
Email: John.P.Saia@mvn02.usace.army.mil
Secretary: Kitty Miller
Appointed: 7-17-00

Bob Bosenberg (Alternate)

Biologist, USACE Liaison
New Orleans District
7400 Leake Avenue (70188)
P. O. Box 60267
New Orleans, Louisiana 70160
504-862-2522 Fax: 504-862-2572
Email:
Robert.H.Bosenberg@mvn02.usace.army.mil
Appointed: 9/15/99

Department of Defense (DOD)/ U.S. Navy (USN)

Joseph Riccio

Chief Naval Education and Training
USN Code N441
250 Dallas Street
Pensacola, Florida 32508-5220
850-452-4091 Fax: 850-452-8485
Email: capt-joseph.riccio@cnet.navy.mil
Appointed : 1/19/01

Robert Stender (Alternate)

Facilities Management
Naval Education & Training (Code 441)
250 Dallas Street
Pensacola, Florida 32508-5220
850-452-4022 Fax: 850-452-4066
Email: robert-g.stender@smtp.cnet.navy.mil
Appointed 3/8/94

Department of Agriculture (USDA)/ Natural Resources Conservation Service (NRCS)

Vacant 3-02-01

Health and Human Services (HHS)/ U.S. Food and Drug Administration (US FDA)

Merrill McPhearson

Director, Gulf Coast Seafood Laboratory
U.S. Food and Drug Administration
P.O. Box 158
Dauphin Island, Alabama 36528
FedEx: 1 Iberville Drive
Dauphin Island, Alabama 36528
334-694-4480 Fax: 334-694-4477
Email: rmcphear@cfsan.fda.gov
Appointed: 10/3/94

Department of Interior (DOI)/ Mineral Management Interior (MMS)

Vacant 9/12/00

Department of Interior (DOI)/ U.S. Fish and Wildlife Service (US FWS)

Columbus Brown

Special Assistant to the Regional Director
U.S. Fish and Wildlife Service
1875 Century Blvd.
Atlanta, Georgia 30345
404-679-4143 Fax: 404-679-7149
Email: Columbus_Brown@fws.gov
Secretary: Debbie_Vess@fws.gov
Appointed: 7-03-00

Department of Interior (DOI)/ U.S. Geological Survey (USGS)

Virginia R. Burkett

Assoc. Reg. Chief Biologist
Chief, Forest Ecology Branch
National Wetlands Research Center/USGS
700 Cajundome Boulevard
Lafayette, Louisiana 70506-3152
337-255-5628 Fax: 337-256-2621
Email: virginia_burkett@usgs.gov
Appointed: 5-8-00

State Representatives

* State Lead Agency

Alabama

John Carlton

Chief, Field Operations Division-Mobile Branch
Alabama Department of Environmental
Management
2204 Perimeter Road
Mobile, Alabama 36615
334-450-3400 Fax: 334-479-2593
Email: jcc@adem.state.al.us
Appointed: 8/23/92

Florida

Lynn Griffin

Environmental Administrator
Office of Gov. and Legislative Affairs
Florida Department of Environmental Protection
3900 Commonwealth Boulevard
Mail Station 47
Tallahassee, Florida 32399-3000
850-487-2231, ext. 135 Fax: 850-922-5380
Email: Lynn.Griffin@dep.state.fl.us
Appointed: 10/28/99

Kurtis Gregg (Alternate)

Florida Department of Environmental Protection/
OIP
3900 Commonwealth Boulevard
Mail Station 47
Tallahassee, Florida 32399-3000
850-487-2231 Fax: 850-922-5380
Email: kurtis.gregg@dep.state.fl.us
Appointed 8/28/01

Louisiana**Len Bahr***

Executive Assistant
Office of the Governor of Louisiana
625 North Fourth St. Suite 1127
Baton Rouge, Louisiana 70802
225-342-3968 Fax: 225-342-5214
Email: lenb@dnr.state.la.us
Appointed: 8/23/92

Dugan S. Sabins (Alternate)

Environmental Program Manager
Office of Environmental Assessment
Environmental Planning Division
Louisiana Department of Environmental Quality
P. O. Box 82178
Baton Rouge, Louisiana 70884-2178
FedEx: 7290 Bluebonnett, Fifth Floor
Baton Rouge, LA 70810
Phone: 225-765-0246 Fax: 225-765-0617
Email: dugan_s@deq.state.la.us
Appointed: 12/8/93

Mississippi**Phil Bass***

Director, Office of Pollution Control
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385
FedEx: 2380 Hwy 80 West
Jackson, Mississippi 39204
601-961-5100 Fax: 601-961-5337
Email: phil_bass@deq.state.ms.us
Secretary: pamela_layton@deq.state.ms.us
Appointed: 3/30/00

Gale Martin, Executive Director

Mississippi Soil & Water Conservation Commission
P.O. Box 23005
Jackson, Mississippi 39225-3005
FedEx: 680 Monroe Street Suite B
Jackson, MS 39202
601-354-7645 Fax: 601-354-6628
Email: gmartin@mswcc.state.ms.us
Appointed: 8/19/97

Texas**Bruce A. Moulton***

Program Specialist
Policy & Regulations Division
Texas Natural Resource Conservation Commission
P.O. Box 13087
Austin, Texas 78711-3087
FedEx: 12100 Park 35 Circle
Bldg F, 4th Floor, Room 434
Austin, Texas 78753
512-239-4809 Fax: 512-239-6195
Email: bmoulton@tnrcc.state.tx.us
Appointed: 11/7/96

Larry McKinney

Texas Parks & Wildlife Department
4200 Smith School Road
Austin, Texas 78744
512-389-4636 Fax: 512-389-4394
Email: larry.mckinney@tpwd.state.tx.us
Appointed 12/8/93

Gulf States Coastal Zone Management Programs

Terry Howey

Administrator, LA Coastal Zone
Management Program
P.O. Box 44487
Baton Rouge, Louisiana 70804-4487
FedEx: 625 North Fourth Street, 10th Floor
Baton Rouge, Louisiana 70802
225-342-5007 Fax: 225-342-9439
Email: terryh@dnr.state.la.us
Appointed: 5/26/00

Non-Government Representatives Agriculture

Ned Meister

Director, Commodity & Regulatory Activities
Texas Farm Bureau
P. O. Box 2689
Waco, Texas 76702-2689
FedEx: 7420 Fish Pond Road
Waco, Texas 76710
254-751-2457
Fax: 254-751-2671
Email: nmeister@txfb.org
Secretary's Email: dphillips@txfb-waco.org
Telephone: 254-751-2667
Appointed 7/16/99

Citizens Advisory Committee

Casi L. Callaway

Executive Director
Mobile Bay Watch, Inc.
2380 Dauphin Street, Suite C-124
Mobile, AL 36606-4051
334-476-0328 Fax: 334-476-0329
Email: callaway@mobilebaywatch.org
Appointed: 7/5/01

Robert Crowe

Land Supervisor
Alabama Power Company
150 St Joseph Street
Mobile, Alabama 36652-2247
334-694-2391/928-6615
Fax: 334-694-2430
Email: rhcrowe@southernco.com
Appointed 1/4/01

J. R. Wilson (alternate)

709 Washington Avenue
Pascagoula, Mississippi 39567
228-762-7264 Fax: 228-696-2921
Email: salliebelle@peoplepc.com
Appointed: 1/4/01

Conference of Southern County Associations - Gulf of Mexico Committee

Joel Yelverton

Assistant Executive Director
Mississippi Association of Supervisors
793 N. President Street
Jackson, Mississippi 39202
601-353-2741 Fax: 601-353-2749
Email: massup1@aol.com
Appointed: 12/13/99

Sue Glover (Alternate)

Federal/State Legislative Analyst
Texas Association of Counties
1204 San Antonio
Austin, Texas 78701
512-478-8753 Fax: 512-478-0519
Email: SueG@County.Org
Appointed: 12/13/99

Environment

Deborah Dawkins

Chair of the Steering Committee of
Gulf Restoration Network
22383 Meadowlark Drive
Pass Christian, Mississippi 39571
State Senate address:
P. O. Box 1018
Jackson, Mississippi 39215
228-452-3868
Office: 601-359-3200 Fax: 601-359-2889
Secretary: Becky
Email: debeaux@datasync.com
Appointed: 5/12/98

Cynthia Sarthou (alternate)

Executive Director
Gulf Restoration Network
P. O. Box 2245 70176
839 St. Charles Ave. Suite 309
New Orleans, Louisiana 70130
504-525-1528/522-1394
Fax: 504-525-0833
Email: Cyn@gulfrestorationnetwork.org
Appointed: 2/12/01

Chris Dorsett (alternate)

Gulf Restoration Network
P.O. Box 2245 70176
839 St. Charles Ave. Suite 309
New Orleans, Louisiana 70130
504-525-1528
Fax: 504-525-0833
Email: cdorsett@gulfrestorationnetwork.org
Appointed: 2/12/01

Fisheries

Ron Lukens

Gulf States Marine Fisheries Commission
P. O. Box 726
Ocean Springs, Mississippi 39566-0726
FedEx: 2404 Government Street
Ocean Springs, Mississippi 39564
228-875-5912 Fax: 228-875-6604
Email: rlukens@gsmfc.org
Appointed: 12/6/00

Gulf of Mexico Coalition

Flinda Hill

Vice Chairman of Business Council
Mississippi Power Company
Environmental Quality Department
Post Office Box 4079
Gulfport, Mississippi 39502-4079
FedEx: 2992 W. Beach Boulevard (39501)
228-865-5152 Fax: 228-865-5085
Email: frhill@southernco.com
Appointed 3/21/00

National Estuary Programs (NEPs)

Helen E. Drummond

Galveston Bay Estuary Program
711 W. Bay Area Blvd., Suite 210
Webster, TX 77598
281-316-3004 Fax: 281-332-8590
Email: hdrummond@tnrcc.state.tx.us
Appointed 3/27/01

Ray Allen (alternate)

Executive Director
Coastal Bend Bays & Estuaries Program, Inc.
1305 N. Shoreline, Suite 205
Corpus Christi, TX 78401
361-885-6204
Fax: 361-883-7801
email: rallen@cbbep.org
Appointed 3/27/01

The Nature Conservancy (TNC)

Robert Bendick

Vice President and Florida Chapter Director
Southeast Division
222 South Westmonte Drive, Suite 300
Altamonte Springs, Florida 32714-4269
407-682-3664 Fax: 407-682-3077
Email: rbendick@tnc.org
Appointed: 10/16/00

Focus Team Members Appointed by the GMP Management Committee

* State Lead Contact

Bill Holland: Co-Chair

Gulf of Mexico Program Office
Bldg 1103 Rm 202
Stennis Space Center, MS 39529-6000
228-688-3912 Fax: 228-688-2709
holland.bill@epa.gov

Herb Kumpf: Co-Chair

NOAA/National Marine
Fisheries Service (NMFS)
Panama City Laboratory
3500 Delwood Beach Road
Panama City FL 32408
(850) 234-6541 Fax: (850) 235-3559
herb.kumpf@noaa.gov

Ron Bean

Louisiana Department of Environmental
Quality (LA DEQ)
P. O. Box 82135
Baton Rouge, LA 70884-2135
Room 347 A-MK
7220 Bluebonnet Road (70810)
225-765-2768 Fax: 225-765-0635
ronnie_b@deq.state.la.us

Pat Carter

U. S. Fish & Wildlife Service
1875 Century Blvd., Suite 250
Atlanta, GA 30345
404-679-7108 Fax: 404-679-4141
pat_carter@fws.gov

Earl Chilton*

Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744
512-389-4652 Fax: 512-389-4814
Earl.Chilton@tpwd.state.tx.us

Vince Cottone

ChevronTexaco
935 Gravier Street
New Orleans, LA 70112
504-592-6257 Fax: 504-592-6199
cottovf@texaco.com

David Felder*

Biologist Environmental Scientist II
MDEQ
4279 Forest Park
Jackson, MS 39211
601-664-3987 Fax: 601-664-3938
David_Felder@deq.state.ms.us

Roland Ferry

U. S. Environmental Protection Agency Region 4
61 Forsyth St., SW
Atlanta, GA 30303
404-562-9387 Fax: 404-562-9343
ferry.roland@epamail.epa.gov

Pam Fuller

USGS/Biological Resources Division
7920 NW 71st Street
Gainesville, FL 32653
352-378-8181 Fax: 352-378-4956
pam_fuller@usgs.gov

Tom Herrington

FDA/Gulf of Mexico Program Office
Bldg 1103 Rm 202
Stennis Space Center, MS 39529-6000
228-688-7941 Fax: 228-688-2306
herrington.tom@epa.gov

Nanette Holland

Tampa Bay Estuary Program (TBEP)
100 8th Avenue SE
St. Petersburg, FL 33701
727-893-2765 Fax: 727-893-2767
nanette@tbep.org

Doug Jacobson

U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue (6WQ-EM)
Dallas, TX 75202
214-665-6692 Fax: 214-665-6689
jacobson.doug@epa.gov

Ron Lukens

Gulf States Marine Fisheries Commission
P. O. Box 726
Ocean Springs, MS 39566-0726
2404 Government St. (39564)
228-875-5912 Fax: 228-875-6604
rlukens@gsmfc.org

Greg Lutz

LSU Ag Center
2410 Ben Hur Road
Baton Rouge, LA 70820
225-765-0855 Fax: 225-765-2877
glutz@agctr.lsu.edu

Mark McElroy*

LA Department of Wildlife and Fisheries
2000 Quail Drive
PO Box 98000
Baton Rouge, LA 70898
225-765-2336 Fax: 225-765-5176
mcelroy_mg@wlf.state.la.us

Tom McIlwain

Fishery Administrator
Southeast Fisheries Science Center
National Marine Fisheries Service (NMFS)
3209 Frederick Street
Pascagoula, MS 39567
FedEx: 3207 Frederick Street (39568)
228-762-4591x285 Fax: 228-769-9200
tom.mcilwain@noaa.gov

Vernon Minton*

Alabama Department Of Conservation
& Natural Resources
Marine Resources Division
P. O. Drawer 458
Gulf Shores, AL 36547
21055 Mildred Casey
Gulf Shores, AL 36547
334-968-7576 Fax: 334-968-7307
rvminton.amrdgs@gulftel.com

Cynthia A. Moncreiff

Gulf Coast Research Laboratory (GCRL)
Marine and Estuarine Botany
P. O. Box 7000
Ocean Springs, MS 39566-7000
703 E. Beach Blvd. (39564)
228-872-4260 Fax: 228-872-4204
cynthia.moncreiff@usm.edu

Marilyn Barrett O'Leary

Louisiana Sea Grant College Program
Louisiana State University
103 Sea Grant Building
Baton Rouge, LA 70803-7507
225-578-6349 Fax: 225-578-6331
moleary@lsu.edu

Harriet Perry

Director - Center for Fisheries Research and
Development USM-GCRL
P. O. Box 7000
Ocean Springs, MS 39566-7000
228-872-4218 Fax: 228-872-4204
harriet.perry@usm.edu

Daniel Roberts, Jr.*

Research Scientist
Florida Fish and Wildlife Conservation
Commission/Florida Marine Research Institute
100 Eighth Avenue SE
St. Petersburg, FL 33701
727-896-8626 Fax: 603-971-2386
dan.roberts@fwc.state.fl.us

Lonnie Ross

CNET
Code OS 4413
250 Dallas Street
Pensacola, FL 32508-5220
850-452-4413 Fax: 850-452-4066
Lonnie-g.ross@cnet.navy.mil

Deborah Schultz

Barataria-Terrebonne National Estuary Program
(BT NEP)
P. O. Box 2663
Thibodaux, LA 70310
320 Audubon Drive (70301)
504-447-0868 Fax: 504-447-0870
deborah_s@deq.state.la.us

Thomas Schultz (CAC representative)

MS State University
Coastal Research & Extension Center
2710 Beach Blvd., Suite 1E
Biloxi, MS 39531
228-388-4710 Fax: 228-388-1375
yvonnev@ext.ms.state.edu

Robert Stender (Alternate)

Chief of Naval Education & Training (CNET)
Code OS 441
250 Dallas Street
Pensacola, FL 32508-5220
850-452-4413 Fax: 850-452-4066
robert-g.stender@cnet.navy.mil

Bruce Thompson

Coastal Fisheries Institute
Wetlands Resource Building
Louisiana State University
Baton Rouge, LA 70803-7503
225-578-6093/6337 Fax: 225-578-6513
coetho@lsu.edu

Tom Van Devender

Mississippi Department Of Marine Resources
1141 Bayview Ave., Suite 101
Biloxi, MS 39530
228-374-5000 Fax: 228-374-5008
tom.vandevender@dmr.state.ms.us

Focus Team Participants

Amy Benson

USGS
7920 NW 71st Street
Gainesville, FL 32653
352-378-8181 Fax: 352-378-4956
amy_benson@usgs.gov

Raymond J. Botto

Sea River Maritime Inc.
P. O. Box 1512
Houston, TX 77251-1512
1200 Smith Street
Citi Corp Building, 32nd Floor (77002)
713-758-5267 Fax: 713-758-5091
shipping!texas!rjbotto@seariver.attmail.com

Esther Boykin

Earth Justice Legal Defense Fund
400 Magazine St., Suite 401
New Orleans, LA 70124
504-522-1394 Fax: 504-566-7242
eboykin@earthjustice.org

Lewis Byrd

Alabama Department Of Public Health
4168 Commanders Dr.
Mobile, AL 36615
334-432-7618 Fax: 334-432-8477
adphmob@dibbs.net

James Carlton

Williams College
75 Greenmanville Avenue
Mystic, CT 06355
860-572-5359 Fax: 860-572-5329
jcarlton@williams.edu

Paul Carangelo

Coastal Environmental Planner
222 Power Street (78401)
P. O. Box 1541
Corpus Christi, TX 78403
361-882-5633 Fax: 361-882-3079
paul@pocca.com

Jody Scanlan Caumero

Auburn University
4170 Comanders Drive
Mobile, AL 36615
251-438-5690
jscanlan@acesag.auburn.edu

Jeff Davies

Alabama Department of Environmental
Management (ADEM)
2204 Perimeter Rd.
Mobile, AL 36615
334-450-3400 Fax: 334-479-2593
jdd@adem.state.al.us

Chris Dorsett

Gulf Restoration Network
P. O. Box 2245
New Orleans, LA 70176
839 St. Charles Avenue, Suite 309 (70130)
504-525-1528 Fax: 504-566-7242
cdorsett@gulfrestitutionnetwork.org

Mike Eubanks

Biologist, Inland Environment Team
Planning and Environmental Division
U.S. Army Corps of Engineers
109 Saint Joseph Street
Mobile, AL 36602
251-694-3861 Fax: 251-694-3815
michael.j.eubanks@sam.usace.army.mil

Douglas J. Fruge

Fisheries Coordinator
Gulf Coast Fisheries Coordination Office
2404 Government Street, Suite B (39564)
P. O. Box 835 (39566-0825)
Ocean Springs, MS
228-875-9387 Fax: 228-875-6604
doug.fruge@fws.gov

Susan M. Hennington

U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, LA 70160-0267
504-862-2504
susan.m.hennington@mvn02.usace.army.mil

James Henson

USDA/Natural Resources Conservation Service
P. O. Box 74490
Baton Rouge, LA 70874
B.B. Little Drive
Southern University (70874)
225-775-6280 Fax: 225-775-8883
jhenson@npdc.usda.gov

Cathy Holloman

MSU/CREC
2710 Beach Blvd.
Biloxi, MS 39531
228-388-4710 Fax: 338-388-1375
cathyh@ext.msstate.edu

Dewayne Hollin

Marine Business Management Specialist
Texas Sea Grant Program
Texas A&M University
2700 Earl Rudder Fwy. South, Suite 1800
College Station, TX 77845
979-845-3857 Fax: 979-845-7525
dhollin@neo.tamu.edu

Randy P. Lanctot

Executive Director, Louisiana
Wildlife Federation
P. O. Box 65239
Baton Rouge, LA 70896-5239
337 S. Acadian Thruway
Baton Rouge, LA 70806
225-344-6762 Fax: 225-344-6762
lawildfed@aol.com

Heidi Lovett (CAC Alternate)

C/O MRAG Americas
5445 Mariner Street, Suite 111
Tampa, FL 33609-3437
Alternate: Post Office Box 1784
St. Petersburg, FL 33731-1784
(813)639-9519 Fax: (813) 639-9425
HeidiLovett@Compuserve.com

Michael Lyons

Environmental Affairs Manager
LA Mid-Continent Oil & Gas Association
801 North Blvd., Suite 201
Baton Rouge, LA 70802-5727
225-387-3205 Fax: 225-344-5502
lyons@lmoga.com

John Marr

Caribbean Marine Research Center
1501 Northpoint Parkway,
Suite 101
West Palm Beach, FL 33407
561-741-0192 Fax: 561-471-7553
cmrc@cmrc.org

Susan McCarthy

Food and Drug Administration
Gulf Coast Seafood Lab
P. O. Box 158
Dauphin Island, AL 36528
1 Iberville Drive (36528)
334-694-4480, ext. 226 Fax: 334-694-4477
smccarth@cfsan.fda.gov

June Mire

University of New Orleans
6813 Louisville St.
New Orleans, LA 70124
504-486-3883 Fax: call first
tucker9@bellsouth.net

Robert Pitman

Aquatic Nuisance Species Coordinator
USFWS
Albuquerque, NM
505-248-6471
Bob_Pitman@FSW.gov

Charles W. Ramcharan

Department of Biological Sciences
Room 202 Life Sciences Building
South Campus Drive
Louisiana State University
Baton Rouge, LA 70808-1725
225-388-1745 Fax: 225-388-2597
cramcha@unix1.sncc.lsu.edu

Dugan S. Sabins

Environmental Program Manager
Office of Environmental Assessment
Environmental Planning Division
Louisiana Department of Environmental Quality
P. O. Box 82178
Baton Rouge, LA 70884-2178
7290 Bluebonnett, Fifth Floor
Baton Rouge, LA 70810
Phone: 225-765-0246
Fax: 225-765-0617
Email: dugan_s@deq.state.la.us

Edwin Theriot

Assistant Director
Environmental Laboratory
U.S. Army Engineer Waterways Experiment
Station (CEWES-ER-A)
3909 Halls Ferry Rd.
Vicksburg, MS 39180-6199
601-634-2678 Fax: 601-634-2398
therioe@wes.army.mil

Leo Trevino

CBBEP
Coastal Bend Bays, and Estuaries Program
1305 N. Shoreline, Suite 205
Corpus Christi, TX 78401
361-885-6244 Fax: 361-883-7801
Ltrevino@cbbep.org

Dean Wilkinson

NOAA/National Marine Fisheries Service (NMFS)
Office of Protected Resources
1315 East -West Hwy., Rm 13212
Silver Spring, MD 20910-3232
202-482-1166 Fax: 202-482-1041
Dean.Wilkinson@noaa.gov

Acknowledgements

This 2001 Annual Report is a product of the Gulf of Mexico Regional Panel on Aquatic Nuisance Species. It was developed for the Gulf of Mexico Program by Battelle under EPA/OCPCD Contract No. 69-C-00-121, Work Assignment 1-07. Brent Ache, Battelle, served as project manager and author. Other Battelle contributors included Stephen Molnar (layout) and Amanda Bourque (research). The document was visioned and reviewed by the Gulf of Mexico Program's Invasive Species Focus Team and other issue experts. The Gulf of Mexico Program would like to thank all volunteer contributors and reviewers.

Notes

Notes

An *Initial Survey* of Aquatic Invasive Species
Issues in the Gulf of Mexico Region

EPA 855-R-00-003

September 2000

